REMARKS

In forward link power control, a mobile terminal estimates a received signal-to-interference ratio (SIR) responsive a power control group (PCG) received from a base station over a forward traffic channel. Based on the estimated SIR, the mobile terminal determines a power control bit (PCB), and transmits the PCB back to the base station over a reverse pilot channel. The base station adjusts the forward link power according to the PCB from the mobile terminal. Conventionally, mobile terminals estimate the SIR during a first received PCG period, and transmit the PCB to the base station during a second received PCG period. Because of this, the base station cannot adjust the forward link power until at least a third PCG period. In other words, there is a delay in conventional systems between estimating the SIR and the resultant power control adjustment that spans multiple PCG periods. One embodiment of the present invention reduces this delay by estimating the SIR and transmitting the PCB during the same received PCG. This enables the base station to adjust the power level of the forward link in time for the next PCG period sent to the mobile terminal. In another embodiment, the present invention selects an algorithm to use based on the estimated Doppler frequency.

Applicant respectfully disagrees with the Examiner's rejection of claim 1 under 35 U.S.C. § 102(b) as being anticipated by Bruckert. Claim 1 requires "estimating a quality of signals . . . during a first power control group period (T_1) . . . determining at least one power control bit . . . [and] . . . transmitting the at least one power control bit . . . during the first power control group period (T_1)." Thus, claim 1 requires all three steps to be accomplished over the duration of a single power control group period.

Bruckert teaches a method of reverse link power control in a CDMA system, the timing of which is shown in Figure 5. According to Bruckert, a base station measures a power control group over a first PCG period (PCG_k). During the remainder of the duration of PCG_k and at least some of the next PCG period PCG_{k+1}, Bruckert estimates the value of the received power and determines an appropriate PCB. Because the estimation and determination processes

span two PCG periods (PCG_k and PCG_{k+1}), Bruckert necessarily cannot "[estimate] a quality of signals . . . [determine] at least one power control bit . . . [and transmit] the at least one power control bit . . ." during a single PCG period. *See also Bruckert*, col. 5, ll. 3-9; col. 6, ll. 45-55. In fact, Bruckert never mentions accomplishing these required steps in a single PCG period. Therefore, Bruckert fails to anticipate claim 1 under § 102. Accordingly, Applicant respectfully requests the allowance of claim 1, and its dependent claims 2-5.

Applicant also respectfully disagrees with the Examiner's rejection of claim 6 under 35 U.S.C. § 103(a) as being unpatentable over Chheda in view of Moriya. Claim 6 requires "estimating a propagation delay channel Doppler frequency." Chheda teaches a method for switching between power control algorithms depending upon a speed threshold. The patent to Chheda never mentions anything regarding Doppler frequencies, and the Examiner never asserts that it does. The Examiner appears to add Moriya simply because it mentions a relation between speed and Doppler frequency shift. However, the fact that these two concepts are related is the sum total of what Moriya teaches with respect to speed and Doppler. This simply is not enough to warrant an obviousness rejection. The patent to Moriya never teaches how to calculate the Doppler frequency from speed, and never suggests the use of Doppler frequency instead of speed. As admitted by the Examiner, neither does the patent to Chheda. In fact, neither reference ever suggests that it would even be *desirable* to use Doppler frequencies instead of speed.

With all due respect, the Examiner appears to have located a reference that simply describes what Doppler is, but never teaches or suggests how one skilled in the art might use a Doppler frequency to effect forward link power control in radio communications systems. Indeed, Chheda is perfectly content using only speed. Accordingly, neither reference teaches or suggests, alone or in combination, claim 6, and the § 103 rejection fails as a matter of law. Thus, Applicant respectfully requests the allowance of claim 6, and its dependent claims 7-9.

The Examiner also rejected claim 10 under 35 U.S.C. § 103(a) as being unpatentable over the patent to Sorokine in view of the patent to Tiedemann. Claim 10, like claim 1, requires a terminal to estimate a signal quality, determine the PCB, and transmit the PCB within a single PCG period. The Examiner asserts that Sorokine teaches these elements, and cites col. 4, para. 63-67, for support. Scrutiny, however, reveals that this passage of Sorokine teaches nothing more than the fact that forward link power control is used in CDMA systems. There is never an indication that forward link power control as disclosed by Sorokine is anything other than that what is conventionally known in the art – complete with delays between the estimation of the SIR and the transmission of the PCB over the reverse pilot channel. Simply put, Sorokine does not teach or suggest that the PCB is determined and transmitted in the same PCG in which the signal quality is estimated.

Tiedemann fails to correct this deficiency experienced by Sorokine. The Examiner includes the Tiedemann reference simply for its disclosure of power control groups and power control bits. However, it is well known that CDMA systems – such as the one disclosed by Sorokine – use power control groups and power control bits in power control. Thus, even if one skilled in the art were to combine Sorokine with Tiedemann, Sorokine would end up being nothing more than it is already. That is, Sorokine already discloses forward power control and therefore, discloses power control groups and power control bits already. Therefore, neither Sorokine nor Tiedemann teach or suggest, alone or in combination, estimating the signal quality, determining and PCB, and transmitting the PCB within a single PCG as required by claim 10. As such, the § 103 rejection must fail. Accordingly, Applicant respectfully requests the allowance of claim 10, and its dependent claims 11-14.

The Examiner also rejected claims 15, 20, 21, and 26 under 35 U.S.C. § 103(a) as being unpatentable over Sorokine in view Tiedemann, and cited substantially the same reasons as those cited against claim 10. However, each of claims 15, 20, 21, and 26 contain language similar to that of claim 10. For the reasons stated above, Sorokine and Tiedemann fail to teach

or suggest, alone or in combination, any of claims 15, 20, 21, and 26. As such, Applicant respectfully requests the allowance of claims 15, 20, 21, and 26, and each of their respective dependent claims.

Finally, Applicant notes that the current Office Action was sent to an incorrect address. Applicant filed a Revocation and Power Of Attorney and Change of Correspondence Address on December 11, 2003. For the Examiner's convenience, Applicant includes a copy of Revocation and Power Of Attorney and Change of Correspondence Address, and respectfully requests all future correspondence to be directed to the law firm of Coats and Bennett at the address detailed therein.

Respectfully submitted,

COATS & BENNETT, P.L.L.C.

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